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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/780,859

02/19/2004

Hironori Endo

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10/01/2004

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EXAMINER

HUFFMAN, JULIAN D

ART UNIT

PAPER NUMBER

2853

DATE MAILED: 10/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/780,859	Applicant(s) ENDO, HIRONORI	
	Examiner Julian D. Huffman	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10/370,070.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/19/04</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the dots of the test pattern and the spacing between dots in the main scanning and sub-scanning directions must be shown or the feature(s) canceled from the claim(s).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 7-10 use the language "capable of printing a correction pattern". The language capable of does not recite the existence of the pattern. Subsequent claim language refers to the pattern, eg. "pattern printed by ejecting ink droplets" found in line 12. These limitations lack antecedent basis since a printed pattern is not claimed. It is not clear whether the pattern is printed, or if the device is merely capable of printing the pattern.

Additionally, details of the pattern are not provided with its introduction. Subsequent limitations refer to a dot size and spacing in a sub-scanning direction and main scanning direction. These limitations lack antecedent basis since the details of the pattern are not introduced initially.

In claims 4, 5 and 8, the term "dots" lacks antecedent basis. It is not clear if forward pass dots, return pass dots, or all of the dots of the test pattern are being referred to.

In claim 9, the limitations directed towards the ejection head are not clear since the claimed invention is a correction pattern and the ejection head is not a part of the correction pattern.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4, 7, 9 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujimori (JP 2001-10088).

A machine translation of the Japanese document has been provided. However, the translation is difficult to comprehend. USPGPUB 2001/0030671 A1 is an English language equivalent of the Japanese document. Portions of the USPGPUB document are referred to in the body of this rejection to further clarify portions of the Japanese document.

With regards to claim 1, Fujimori discloses a printing apparatus comprising:

an ejection head for selectively ejecting ink droplets of a plurality of sizes to form dots on a printing medium (fig. 3);

wherein said printing apparatus is capable of printing a correction pattern on said printing medium, said correction pattern enabling correction of a misalignment between a position at which dots are formed during a forward pass through which said

head is moved and a position at which dots are formed during a return pass through which said head is moved (figs. 15 and 22).

With regards to the limitation that a spacing in a sub-scanning direction between dots that make up said correction pattern printed by ejecting ink droplets of a certain size from said ejection head is different from a spacing in the sub-scanning direction between dots that make up said correction pattern printed by ejecting ink droplets of a different size from said ejection head, fig. 19 shows the types of correction patterns printed. Patterns are printed for the different recording heads and different dot sizes, and as shown in fig. 15 and described in section 0072 of the translation and section 0122 of the PGPUB, dots are printed so that forward pass dots are touching return pass dots when properly aligned. In Fujimori this arrangement is important since it enables misalignment to be detected with high accuracy. The claim language regarding the spacing in the sub-scanning direction specifically uses the language "between dots that make up said correction pattern". This language could refer to any two dots in the correction pattern, including any two dots in any of the sub-patterns. The spacing in the sub-scanning direction between forward pass dots is equal to the diameter of the dots printed. This arrangement is necessary to enable the dots in the forward pass to contact the dots in the return pass when properly aligned. Since the spacing is equal to the dot diameter and the dot diameter changes as the dot size changes, Fujimori discloses different spacings in the sub-scanning direction for the different sizes of dots.

With regards to claim 7, Fujimori further discloses that said printing apparatus is capable of:

receiving command information from a user based on said correction pattern,
and;

based on the command information, correcting a misalignment between a position at which dots are formed during a forward pass through which said head is moved and a position at which dots are formed during return pass through which said head is moved (section 0073 of translation, and 0123 of USPGPUB).

With regards to claim 10, Fujimori also discloses a computer main unit controlling operations (fig. 2, element 90 stores printer driver 96 and controls pattern printing).

With regards to claim 2, Fujimori discloses that said correction pattern has a plurality of sub-patterns, and each sub-pattern is made of dots arranged in a main-scanning direction and the sub-scanning direction (fig. 15).

With regards to claim 3, each said sub-pattern has forward-pass dots that are formed with a predetermined spacing there-between during the forward pass through which said head is moved and return-pass dots that are formed with a predetermined spacing there-between during the return pass through which said head is moved, and an amount of misalignment between a position at which the forward-pass dots are formed and a position at which the return-pass dots are formed is different for each sub-pattern (fig. 15, fig. 22).

Claim 4 specifies that a spacing in a main-scanning direction between the dots forming said correction pattern is the same regardless of said size. The term dots is not defined and can refer to any two dots in the pattern. In Fujimori, considering all of the dots in the pattern shown in fig. 15, #4, the dots of each size, when properly

aligned, are touching and therefore the spacing between the dots is 0 for all of the test patterns of various sizes.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimori in view of Nishigori (JP 10-329381, cited by applicant).

Fujimori discloses everything claimed, as discussed above, with the exception of a density detection member detecting a density of the sub-patterns.

Nishigori discloses a density detection member for detecting test patterns (fig. 4, abstract, section 009 of translation provided by applicant).

It would have been obvious to one having ordinary skill in the art at the time of the invention to incorporate the density detection member of Nishigori in the invention of Fujimori. The reason for performing the incorporation would have been to provide an automatic adjustment which reduces a burden on a user.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian D. Huffman whose telephone number is (571) 272-2147. The examiner can normally be reached on 9:30a.m.-6:00p.m. Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JH



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